

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA

UNITED STATES OF AMERICA : CRIMINAL NO. 16-22

v. : DATE FILED:

YU XUE, : VIOLATIONS:
a/k/a "Joyce," : 18 U.S.C. § 1349 (conspiracy to commit
TAO LI : wire fraud – 1 count)
YAN MEI : 18 U.S.C. § 1832(a)(5) (conspiracy to steal
TIAN XUE : trade secrets - 1 count)
LUCY XI, : 18 U.S.C. § 1956(h) (conspiracy to commit
a/k/a "Lu Xi" : money laundering – 1 count)
 : 18 U.S.C. § 1343 (wire fraud – 16 counts)
 : 18 U.S.C. § 1832(a) (theft of trade secrets –
 : 26 counts)
 : Notices of Forfeiture

SUPERSEDING INDICTMENT

COUNT ONE

THE GRAND JURY CHARGES THAT:

At all times material to this indictment:

GlaxoSmithKline

1. GlaxoSmithKline (hereinafter "GSK") was a science-led global healthcare company with more than 90,000 employees. GSK's stated its mission as "we want to help people to do more, feel better, live longer." GSK sought to research and develop vaccines, medicines, and consumer healthcare products for sale internationally with the intention of profiting from the sale of these products.

2. To achieve these goals, GSK operated pharmaceutical research facilities around the globe, including one in Upper Merion, Pennsylvania. GSK spent considerable sums of money to research and develop potential pharmaceutical products, especially

biopharmaceutical products. Biopharmaceutical products are products manufactured in, extracted from, or synthesized from biological sources. Biopharmaceutical products are commonly proteins manufactured by and harvested from cell cultures.

3. The biopharmaceutical products being developed by GSK were designed to fight cancer and other serious diseases. One product under development was a monoclonal antibody ("mAB") designed to link to HER3 receptors on human body cells. In certain forms of cancer, HER3 receptors are "overexpressed," that is, human body cells contain too many of these receptors. This overexpression contributes to the development of cancer. The proposed antibody would bind with or otherwise impact the overexpressed HER3 receptor cells to eliminate the cancer, slow its development, or help to prevent the cancer from returning.

4. The processes to research, develop, and eventually manufacture biopharmaceutical products were extremely complicated. GSK spent a considerable amount of time, effort, and money in developing procedures to research, develop, and manufacture biopharmaceutical products. GSK typically spent in excess of \$1 billion to research and develop each biopharmaceutical product. GSK's research into possible pharmaceutical products, GSK's research data, GSK's research and development processes, and GSK's manufacturing processes are all trade secrets. Even research projects that were no longer active were still considered GSK trade secret information because these projects could be, and often were, rekindled and redeveloped into a successful product at a later time.

5. GSK's trade secrets were vital to the ability of GSK to successfully operate its business. GSK derives value from trade secret and otherwise confidential information by developing and selling pharmaceutical products. If GSK's competitors received

this information, GSK would be injured financially because its competitors would be able to develop the same or similar products to sell. Since GSK's competitors did not incur the substantial development costs for the product, they would be able to sell the same or similar product at a substantially lower price which would diminish GSK's revenues and profits.

6. All biopharmaceutical research, development, and manufacturing information generated within GSK was considered GSK's proprietary information and belonged to GSK. According to GSK's Code of Conduct and other internal policies, GSK information could not be released externally unless it had been "Approved for External Release" to a third party under an appropriate confidentiality agreement, or a disclosure required by law. GSK's employees were forbidden from using proprietary information for other business or personal activities from which they, or others connected with them, might personally benefit. All GSK employees were required to ensure that electronic confidential information was only submitted or stored within applications, external web sites, electronic repositories, PCs, mobile devices or other information technology systems that have restricted access to individuals based on a need-to-know basis and were managed by GSK or a third party that GSK had contracted with to process and manage the information.

7. GSK's Code of Conduct and other policies on the use of information technology specified that it was an unacceptable practice to store GSK's data on personal equipment such as home computers, external hard drives, PDAs or USB devices. Furthermore, forwarding, posting, or uploading GSK's confidential information to personal e-mail accounts (e.g., Google, Yahoo, Microsoft) or any other external website not approved by GSK was forbidden.

8. All GSK employees were required upon acceptance of employment with GSK to read and acknowledge their understanding of GSK's Code of Conduct policy. The Code of Conduct policy was GSK's overarching policy which encompasses the protection of GSK's proprietary, trade secret information. Employees were required to read and sign the Code of Conduct policy on an annual basis. Each time an employee logged onto a GSK computer, they were required to acknowledge a banner which read: "This computer system is the property of GlaxoSmithKline and is intended for operation by authorized users. You agree to comply with the company's established security and computer use policies and procedures and acknowledge that GlaxoSmithKline has discretion to monitor, use, record, or disclose any data or communications stored or transmitted on the system at any time." When employees accessed other databases containing confidential files, they received a warning that this information could not be shared outside of GSK.

9. GSK protected trade secret and otherwise confidential information and attempted to keep it secret by, inter alia, having their employees sign agreements restricting the use of this information and requiring them to adhere to the Code of Conduct. GSK required its employees to be trained on handling and protecting trade secret and otherwise confidential information. GSK also used various computer programs, including a Controlled Document Management System ("CDMS"), to prevent their employees from stealing data.

Roles of the Defendants

10. Defendant YU XUE, a/k/a "Joyce," worked as a research scientist for GSK from June 2006 until January 2016 at GSK's research facility in Upper Merion, Pennsylvania. For a portion of that time period, defendant YU XUE was a senior-level manager

at GSK with oversight of two to three junior employees. Defendant YU XUE worked to help GSK develop various biopharmaceutical products. Given her position, defendant YU XUE had access to a wide array of GSK trade secret and confidential information. As described below, defendant YU XUE e-mailed GSK trade secret and otherwise confidential information relating to a dozen or more products and numerous GSK processes from her GSK e-mail account to her personal account and then forwarded that trade secret information to defendants TAO LI, YAN MEI, Person 1, and others. Defendant YU XUE also used her GSK computer to download a substantial amount of trade secret information from GSK's network onto a thumb drive or other portable storage device in order to send this information to defendants TAO LI, YAN MEI, and others. Defendants YU XUE, TAO LI, YAN MEI, and others founded Renopharma, Inc., Nanjing Renopharma, Ltd., and Shanghai Renopharma, Ltd., (hereinafter collectively known as "RENOPHARMA") to market and sell the stolen trade secret and otherwise confidential information.

11. On June 20, 2006, defendant YU XUE signed a Conditions of Employment Agreement with GSK. Pursuant to this agreement, defendant YU XUE agreed that she would abide by GSK's Code of Conduct. Defendant YU XUE agreed that she would "not engage in any activity in competition with or against the best interests of [GSK] and avoid all conflicts of interest with [GSK] or the appearance thereof." Defendant YU XUE specifically agreed not to use any confidential GSK information for her own benefit or the benefit of other companies either during or after her term of employment. Defendant YU XUE agreed that all work she performed remained the "exclusive property" of GSK. Defendant YU XUE received periodic training from GSK on the appropriate use and handling of trade secret and otherwise

confidential information. Defendant YU XUE did not have authorization from GSK to transmit the trade secret or otherwise confidential material outside of GSK. Defendant YU XUE also did not have permission from GSK to store the trade secret or otherwise confidential material on her personal e-mail account or home computer.

12. Defendant YU XUE was regarded as one of the top protein biochemists in the world. She has a Ph.D. in Biological Chemistry from the University of North Carolina and an undergraduate degree from Peking University in China. According to her resume, she was the HER3 project co-leader at GSK working on monoclonal antibody design. She previously worked on structure modeling and antibody protein purification. According to her resume, she has successfully humanized and patented at least four separate antibodies. Prior to working at GSK, she worked for six years at the University of North Carolina as a research analyst.

13. Defendant TAO LI was one of the owners of RENOPHARMA. Defendant YU XUE transferred the stolen trade secret and otherwise confidential information to defendant TAO LI via e-mail and portable electronic storage devices. Defendant TAO LI worked in China to market and sell the stolen trade secret and otherwise confidential information on behalf of RENOPHARMA. Defendant TAO LI's role in the conspiracy also included raising funds for RENOPHARMA from various sources, such as private investors, government agencies, and universities. Defendant TAO LI has a B.S. in Biochemistry from Nankai University in Tianjin, China, a M.S. in Molecular Biology from the Shanghai Institute of Biochemistry, and a Ph.D. in Molecular Biology from the University of North Carolina.

14. Defendant YAN MEI was another one of the owners of RENOPHARMA. Defendant YU XUE e-mailed some of the stolen trade secret and otherwise confidential

information to defendant YAN MEI. Defendant YAN MEI worked in China to market and sell the trade secret and otherwise confidential information on behalf of RENOPHARMA.

Defendant YAN MEI also assisted YU XUE with the scientific processes for RENOPHARMA. Defendant YAN MEI's wife, defendant LUCY XI, worked at GSK with defendant YU XUE during the conspiracy. Defendant YAN MEI received a B.S. in chemistry and molecular engineering from Peking University. Defendant YAN MEI received his Ph.D. in Medicinal Chemistry from the University of Iowa in 2009.

15. Defendant TIAN XUE was the twin sister of defendant YU XUE. Defendant TIAN XUE also worked for RENOPHARMA. Knowing their conduct was illegal and attempting to prevent the fraud from being traced back to the source, defendants YU XUE, TAO LI, YAN MEI, and TIAN XUE agreed to hide a portion of the proceeds from defendant YU XUE's criminal conduct in defendant's TIAN XUE's name. Defendant TIAN XUE set up a computer system for RENOPHARMA and also assisted defendant YU XUE with some of the scientific processes for RENOPHARMA, processes which used the stolen GSK information. According to her resume, defendant TIAN XUE has a B.S. in Biochemistry from Jilin University in Changchun, China, a M.S. in Biochemistry from Tsinghua University in Beijing, a Ph.D. in Immunology from the National Institute for Medical Research in London, and a M.S. in Computer Science and Information Technology from the University of North Carolina.

16. Defendant LUCY XI, a/k/a "Lu Xi," was the wife of defendant YAN MEI. Defendant LUCY XI worked as a scientist at GSK from July 14, 2008 until November 3, 2015. While at GSK, defendant LUCY XI e-mailed trade secret and otherwise confidential information to defendant YAN MEI to assist his work at RENOPHARMA. Like defendant YU XUE,

defendant LUCY XI also signed a Conditions of Employment agreement with GSK and promised to abide by GSK's Code of Conduct. Defendant LUCY XI did not have permission to transfer the trade secret or otherwise confidential information outside of GSK.

17. During the offense conduct, Person 1 worked as a research scientist at an institute affiliated with multinational pharmaceutical company. Defendant YU XUE sent Person 1 trade secret and confidential information belonging to GSK. In return, Person 1 provided defendant YU XUE with confidential information belonging to the institute and otherwise assisted defendant YU XUE with RENOPHARMA. TAO LI and YAN MEI sent Person 1 antibody samples to test on behalf of RENOPHARMA. Person 1 sent information and research, including test results of antibody samples, to defendants TAO LI and YAN MEI in China to assist RENOPHARMA.

Renopharma

18. Renopharma, Inc. was created by defendant YU XUE as a U.S. corporation in Delaware on July 16, 2012. Similar corporations called Shanghai Renopharma and Nanjing RenoPharma, Ltd. were created offshore and operated in China by defendants YU XUE, TAO LI, YAN MEI, and others. The purpose of these corporations was to market and sell the stolen trade secret and otherwise confidential information. RENOPHARMA advertised that it operated as a drug research and development company in China with limited U.S. affiliation. RENOPHARMA publically touted itself as "a leading new drug research and development company, specialized in providing products and services to support drug discovery programs at pharmaceutical and biotech companies. Our company is headquartered in Nan Jing, Jiang Su, P.R. China."

19. Defendant TAO LI described RENOPHARMA in an e-mail in which he stated that defendant TAO LI and two of his friends [defendants YU XUE and YAN MEI]:

are setting up a company [RENOPHARMA] and trying to find investors in China. One of my team members [YU XUE] has been working in a big pharmaceutical company [GSK] for years and is one of the best scientists in the world on protein modeling, especially in antibody humanization and affinity maturation, which most pharmaceutical companies cannot do by themselves. Our plan is: First spend 1-3 years to set up a company in China and offer antibody humanization/affinity maturation services to companies worldwide, then spend another 3-4 years to develop our own antibody drugs... we have several developed and validated humanized antibodies targeting a certain important target, which is ready for animal experiments. It's a fast way to produce a 'real' drug in China.

20. Defendant TAO LI further described RENOPHARMA, "The name of my company is Nanjing RenoPharma Inc. It's located at Nanjing, a city in Eastern China, about 150 miles away from Shanghai. So far the company is running well. The major funding was from two private investors. We got some supports from the government, including some national awards and extra fundings, tax waive, and a free 4000 sqf lab space."

21. Defendant TAO LI further described that RENOPHARMA was founded "in Nanjing, [and] focusing on research and development of antibody drug." Defendant TAO LI stated, "In these two years in China, governments in different levels have helped us a lot. This confirmed [to] us that the road we chose is right." Defendant TAO LI further stated in the article that he has received almost two million yuan [about \$300,000 depending on the volatile exchange rate] financial support from governments in different levels in Nanjing, Jiangsu province. Moreover, defendant TAO LI stated that his company was enjoying many benefits like first two-year office area for free and bank loan convenience.

22. Defendant YU XUE e-mailed defendant TAO LI and provided more

information about RENOPHARMA and their respective roles in this venture. In this e-mail, defendant YU XUE stated, as translated from Mandarin Chinese:

I thought about the [company's] operation method last night. [I believe] many years' worth of experience and knowledge are the key [elements] for the company [RENOPHARMA]. Although I am not resigning from my position [at GSK] to go back [to China] at the initial stage, my time and energy spent is not going to be less than anyone else's. As a matter of fact, it will only be more. The risk on the technology and the responsibilities are huge too. Simply using the reasons that I am not returning to China or I have little financial burden to decide not to give me wages doesn't make any sense. If we operate with this methodology, then I will feel like an outsider, like a consultant, and not as a key member of the company. In order to promote motivation, the wage distribution should be that either no one gets paid or everyone gets paid equally. Everyone should give what they can. After reviewing the project proposal, the total for the wage is 1.2 million RMB [Renminbi], split evenly among all three high level managers, each one will get 400,000 RMB which is within your limit. I can leave my 400,000 RMB in the company for you to borrow if you don't have enough funding. Please call me if you disagree.

23. Defendant YU XUE further described RENOPHARMA in an e-mail to Person 1. Person 1 asked, "I have a question for you and the company in china: who is the real and practical owner? I mean the person who has the absolute control of this company? Do you have shares sorted out?" Defendant YU XUE replied that the owners were "Myself, Litao [TAO LI] and Meian [YAN MEI]. We three make up the company [and] are owner[s]. I have the absolute control of company. If we have really good data in the near future, I will quit the job in GSK right away. My stocks is occupied by taoli [TAO LI] for now, but we have law document notarized. I have the highest stock share which is 30%, taoli [TAO LI] and yanmei [YAN MEI] each has 21% share, the rest of share for the people invest money and also some left over for the future key people [who] join the company."

The Trade Secrets and Otherwise Confidential GSK Information

24. Document 35 was an internal GSK PowerPoint presentation titled "Anti-

HER3 mAB" (monoclonal antibody) and identified a specific GSK antibody under development. Document 35 contained GSK trade secret information and other confidential information. Document 35 contained GSK's strategy for developing an anti-HER3 monoclonal antibody and information on a specific candidate for anti-HER3 for clinical trials. Document 35 outlined the development risks and opportunities of a specific anti-HER3 antibody candidate for GSK. Document 35 opined that this candidate "would provide GSK with [a] package similar to Herceptin/HercepTest that showed great therapeutic value to cancer patients." Document 35 also provided the pre-clinical data in support of the candidate antibody and a thorough explanation of how it worked. Document 35 opined that the GSK candidate "should represent [a] 'bio-better and bio-superior' system in comparison to existing competitors." Document 35 further explained, "We can conclude . . . we can kill [the cancer] tumor [in a] different way that will complement each other to maximize the specific [cancer] cell killing." Finally, Document 35 provided a draft clinical development strategy.

25. Document 33 was a GSK document titled, "Points to Consider in Determining Critical Quality Attributes for Therapeutic Monoclonal Antibodies." Document 33 retained GSK's letterhead on each page. Document 33 contained both GSK trade secret and confidential information. Document 33 provided a current summary of GSK research into monoclonal antibodies. Document 33 provided descriptions, schematic representations, and biological summaries of the antibodies which GSK used in its research and development projects. Document 33 also contained the business plan for GSK's quality control unit.

26. Document 32 was a portion of a powerpoint presentation titled, "Investigate fragmentation of aBCMA" written by YU XUE. Document 32 contained computer

modeling of a portion of specific GSK product under development. The slides constituted a visual representation of the solution to a particular developmental problem which GSK discovered occurred in this product. Document 32 contained GSK trade secret and confidential information.

27. Document 56 was a GSK report which detailed the design of experiment, validation, and platform method instruction and verification of analytical method for the quantitation of host cell proteins in monoclonal antibodies. Document 56 described, in very specific detail, GSK's procedures to test monoclonal antibodies. Document 56 provided the list of reagents and assay solutions used by GSK scientists. Document 56 then provided GSK's step-by-step instructions on how to perform these scientific tests. Document 56 further provided GSK's validation procedures to determine if the product falls within the requisite standards. Document 56 contained GSK trade secret and confidential information.

28. Document 9 was a GSK document which contained both trade secret and confidential information. Document 9 was clearly identified as a GSK document and marked "Confidential" on the top of each page. The bottom of the first page of Document 9 read, "Unauthorized copying or use of this information is prohibited." Document 9 contained a GSK research report concerning GSK scientific research on specific monoclonal antibody candidates targeting the HER3 receptor. Document 9 described in detail the "binding" capabilities and other important scientific characteristics of the antibody candidates. Document 9 concluded that the scientific testing revealed that two specific candidates warranted further testing based upon the positive results achieved.

29. Document Z was a powerpoint slide authored by YU XUE. The front

page of Document Z contained GSK's logo. Document Z was titled, "Structure, Computation, and Biopharmaceuticals." Document Z contained a summary of YU XUE's biopharmaceutical research for GSK. Document Z described GSK's procedures for developing and humanizing a monoclonal antibody. Document Z contained models and descriptions of specific GSK antibody candidates targeting HER3 receptors. Document Z contained specific recommendations for GSK scientists working on these projects as well as hypotheses for future research. Document Z contained both trade secret and confidential information.

30. Document GSK B was a presentation titled "Antibody Drug(label) Conjugates Design" and indicated that it was authored by YU XUE. Document GSK B summarized YU XUE's scientific research for GSK, including computer modeling of specific antibodies. Document GSK B described GSK's specific procedures for producing and developing monoclonal antibodies, including step-by-step instructions. Document GSK B described the "final conjugation conditions" and an analytical results summary. Document GSK B contained both GSK trade secret and confidential information.

31. Document 15-1 was a powerpoint presentation titled, "Anti TNF alpha BioBetter Program Introduction." Document 15-1 included GSK research into ways to improve existing biopharmaceutical products by extending the half-life of monoclonal antibodies and extending dosing intervals. Document 15-1 discussed the various diseases which these products could treat and opined that this development presented a "significant commercial opportunity" for GSK. Document 15-1 referenced the fact that pharmaceutical corporations sold more than \$10 billion of these types of biopharmaceutical products each year. Document 15-1 discussed the risks associated with the development of this kind of product and whether the development

would interfere with other existing patents. Document 15-1 contained both GSK trade secret and confidential information.

32. Document 15-2 was a Microsoft Word document summarizing the same information contained in Document 15-1 in written form. Document 15-2 explained the objectives and the concept to improve the mechanism of action. Document 15-2 explained the target validation requirements for development. Document 15-2 explained the potential benefits to patients on the improved pharmaceutical products. Document 15-2 also provided a manufacturing strategy and a projected sales forecast if such a product was developed. Document 15-2 contained both GSK trade secret and confidential information.

33. Document GSK C was a quality control report on a specific GSK biopharmaceutical product. The bottom of each page was marked "confidential." At the top of the first page, Document GSK C stated, "If this template is used to provide information to external 3rd party, seek prior approval." Document GSK C described the specific GSK procedures for the construction of plasmids, which are used to grow monoclonal antibodies. Document GSK C contained the exact DNA sequence to build the plasmid. Document GSK C contained both GSK trade secret and confidential information.

34. Document 21 was a GSK document containing a report titled, "Mouse anti-HER antibody humanization and surface cystein mutation for conjugation." Document 21 contained GSK's humanization strategy for a specific product. Document 21 contained the exact protein sequences needed to construct the product. Document 21 also summarized the binding kinetics of anti-HER2 antibodies. Document 21 contained GSK confidential information.

35. Document U was a GSK powerpoint presentation titled, "An Introduction to Microbial & Cell Culture Development." Each slide on Document U contained GSK's logo. Document U summarized GSK's internal procedures for developing cell cultures used in biopharmaceutical research. Document U showed how GSK structured its operations. Document U contained diagrams of the machinery used by GSK to manufacture cell cultures. Document U also discussed the specific types of cells which GSK used. One slide was titled, "Holy Grail of Cell Line Selection" – giving an indication of the importance of that information to GSK. Document U discussed ways to improve cell environment to increase productivity. Document U contained both GSK trade secret and confidential information.

36. Document W was a GSK powerpoint presentation training lecture titled, "An Introduction to Downstream Processing & Downstream Process Development (DPD)." Document W described GSK's purification procedures in manufacturing biopharmaceutical products. In order to make a biopharmaceutical product on a commercial scale, GSK grew the proteins (monoclonal antibodies) in large vats, but these proteins must be purified before they can be injected into a patient. GSK's DPD department thus played a crucial role in manufacturing biopharmaceutical products. In summarizing DPD's critical role in the manufacturing process, one slide on Document W quoted a GSK scientist as saying, "They give us something that looks like sewer sludge and we have to turn it into something that you are willing to inject into your veins." Document W described precisely how GSK purified biopharmaceutical products, including diagrams and specific instructions. Document W described the procedures GSK used to remove impurities and harvest the monoclonal antibodies from the "sewer sludge." Document W identified the specific filtration process used by GSK.

Document W further described the procedures used by GSK to prevent viruses or other impurities from entering the final product. Document W described the validation procedures used by GSK to ensure a high quality product that passed regulatory muster. Finally, Document W provided GSK's material and operating costs for implementing these procedures and strategies for limiting those costs. Document W contained both GSK trade secret and confidential information.

37. Document X-1 was a GSK document titled, "An Introduction to Downstream Process Development." Document X-1 contained almost exactly the same information as Document U, although in an easier to read format. Document X-1 contained both GSK trade secret and confidential information.

38. Document X-2 was a powerpoint slide titled, "Overview of Small-scale Downstream Process Characterization for Late-phase Assets." Document X-2 further described GSK's commercial manufacturing processes and control strategy. In particular, Document X-2 described how GSK removed impurities during the manufacturing process and harvested the biopharmaceutical products. Document X-2 provided diagrams showing the exact materials GSK used to manufacture biopharmaceutical products. Document X-2 described the normal operating ranges and proven acceptable ranges for final GSK products. Document X-2 contained both GSK trade secret and confidential information.

39. Document X-3 was a GSK powerpoint slide entitled, "Lab Rotation Program." Each page of Document X-3 contained GSK's logo. Document X-3 described GSK's manufacturing operations activities. The document provided GSK's overall "vision and strategy" for manufacturing operations. The document described GSK's manufacturing

capacity and equipment capabilities. Document X-3 contained both GSK trade secret and confidential information.

40. Document X-4 was a GSK powerpoint presentation entitled, "Virus Clearance Validation in DPD." Document X-4 described GSK's procedures to ensure that their end product was safe and did not contain any viruses. The document described the step-by-step details for GSK's procedures for purifying monoclonal antibodies. Finally, the document described GSK's costs for these quality control procedures and their regulatory responsibilities. Document X-4 contained both GSK trade secret and confidential information.

41. Document X-5 was a GSK powerpoint presentation titled "BioPharm Lab Rotation Program – Introduction to Preparative Chromatography & Process Development Fundamentals." Document X-5 described GSK's procedures for protein chromatography which GSK used in the manufacturing process. Document X-5 described exactly how GSK's chromatography machines were designed and configured. Document X-5 also described the particles used in GSK's chromatography processes and the different types of chromatography used by GSK. Document X-5 also described GSK's development sequences for new chromatography processes for monoclonal antibodies. Document X-5 contained both GSK trade secret and confidential information.

42. Document X-6 was a GSK powerpoint presentation titled "Harvest and Filter Unit Operations." Document X-6 described GSK's procedures for filtering the impurities and harvesting the monoclonal antibodies during the manufacturing process. The document described types of centrifuges used by GSK and GSK's operating procedures for those machines. The document described the types of filters used by GSK and their construction. Document X-6

contained GSK confidential information.

43. Document X-7 was a 45-page GSK powerpoint presentation titled "Downstream Platform Approaches for Biopharm Purification." Document X-7 described GSK's procedures for filtering and harvesting all types of GSK's biopharmaceutical products, including monoclonal antibodies and other products. Document X-7 contained step-by-step instructions, including the types of resins GSK's uses, GSK's wash buffer components, and the types of cleaning buffers used by GSK. Document X-7 also described GSK's processes for ensuring that the end product does not contain any viruses or other impurities. Document X-7 contained GSK confidential information.

44. Document 23 was a one-page document regarding fibroblast growth factor receptors. Document 23 contained information on a specific product being developed by GSK for anti-cancer treatment. Document 23 referenced a specific GSK discovery that a particular GSK antibody bound with a specific receptor. Document 23 contained GSK confidential information.

45. Document G was a GSK document which contained GSK's specific procedures and instructions on how to filter a monoclonal antibody during the manufacturing process. Document G contained GSK trade secret and otherwise confidential information.

46. Document 36 was a 17-page RENOPHARMA document containing GSK information on a specific product being developed by GSK for anti-cancer treatment. The document noted, "Be careful, GSK data." The report described the biology of the product and how it worked. Document 36 contained GSK trade secret and confidential information.

47. Document TL-1 was a 17-page GSK document titled, "Candidate

Selection Executive Summary, GSK2849330, HER3 1D9 Accreta mAb.” Document TL-1 was stamped “Confidential” and stated specifically, “This document is the property of GlaxoSmithKline and contains confidential information. Disclosure to anyone outside GlaxoSmithKline is strictly forbidden.” Document TL-1 described the candidate selection criteria, experimental results, and development plans for a particular GSK monoclonal antibody under development. Document TL-1 contained specific GSK test results and comparisons with competitor products. Document TL-1 contained GSK trade secret and confidential information.

48. Document TL-2 was a 48-page GSK document titled, “Oncology/Biopharm R&D Candidate Selection Documentation Technical Evidence.” Document TL-2 was stamped “Confidential” and stated specifically, “This document is the property of GlaxoSmithKline and contains confidential information. Disclosure to anyone outside GlaxoSmithKline is strictly forbidden.” Document TL-2 described the technical evidence relating to a particular GSK monoclonal antibody under development. Document TL-2 contained specific GSK experiments, results, and conclusions. Document TL-2 contained GSK trade secret and confidential information.

49. Document TL-3 was a 90-page GSK Investigational New Drug (IND) document for a particular GSK monoclonal antibody under development targeting a receptor known as IL-7R. Each page of Document TL-3 is marked “Confidential”. Document TL-3 contained highly detailed descriptions and experimental test results of this development drug. Document TL-3 contained: (a) an identification of the specific amino acid sequence selected for further progression by GSK, (b) manufacturing process and process control descriptions, (c) a summary of the analytical testing results; (d) GSK’s acceptance criteria for the new drug; (e) a

complete description of the reference standard used by GSK; (f) the details of GSK's drug substance container closure system; and (g) the details of GSK's stability study for this development drug. Document TL-3 contained GSK trade secret and confidential information.

50. Document TL-4 was an 11-page GSK document titled, "BP CEDD PLASMID QC AND RELEASE REPORT SUMMARY SHEET." Each page of Document TL-4 is marked "Confidential" and identified the author as a GSK scientist. Furthermore, Document TL-4 stated that it would be archived in GSK's confidential document management system and that any external release to a third party required prior approval from GSK. Document TL-4 provided a detailed description of a component used for the manufacture of a particular GSK product under development. Document TL-4 contained GSK trade secret and confidential information.

51. Document TL-5 was a 42-page GSK document titled, "Structure, Computation, and protein therapeutics." Document TL-5 indicated that the contents were the "Property of GlaxoSmithKline." Document TL-5 stated that the author was defendant YU XUE who worked in GSK's "Biopharm" section. Document TL-5 summarized how structural characterization and molecular modeling contribute to the development of protein therapeutics at GSK. Document TL-5 contained specific GSK results, conclusions, and future research directions. Document TL-5 contained GSK trade secret and confidential information.

52. Document TL-6 was a 10-page GSK document titled, "GSK2661380 AMP-224 fusion antibody." Document TL-6 indicated that the document was created by a GSK scientist. The first page of document TL-6 prominently displayed GSK's logo. Document TL-6 provided specific details of a product under development targeting a ligand known as PD-1.

Document TL-6 showed the complete amino acid sequence of the product under development, including the signal sequence and linkage data. Document TL-6 also showed the specific formulation and storage conditions for the product under development. Document TL-6 contained GSK trade secret and confidential information.

53. Document YX-1 was a 91-page GSK Investigational New Drug document regarding a product under development known as "GSK2985040." Document YX-1 contained highly detailed descriptions and experimental test results of this developmental product. Document YX-1 contained: (a) the specific formulation buffer, container/closure system, and storage conditions for the reference standard and clinical trial material, (b) detailed biochemical and biophysical characterization and comparability test results, (c) GSK's comparability acceptance criteria, and (d) stability protocols and analytical test results. Document YX-1 contained GSK trade secret and confidential information.

54. Document YX-2 was a 34-page GSK document titled, "GSK2985040 (aTGF β RII) Downstream knowledge transfer from BPR to BPD." Document YX-2 indicated that it was created by a specific GSK scientist. Document YX-2 discussed how GSK intended to manufacture a biopharmaceutical product then under development. Document YX-2 further discussed some of the manufacturing risks and GSK's mitigation strategies. Document YX-2 contained GSK trade secret and confidential information.

55. Document YX-3 was a 29-page GSK document titled, "Introduction to TGF β RII." Document YX-3 was clearly marked with GSK's logo on every page. Document YX-3 provided information regarding a particular GSK biopharmaceutical product under development. Document YX-3 provided clinical study plans and timelines, detailed upstream

and downstream purification studies, formulation development, and lead candidate selection information. Document YX-3 contained GSK trade secret and confidential information.

56. Document YX-4 was a 5-page GSK document titled, "Specification for GSK2374697 (DAT01) Drug Substance." Document YX-4 was marked on every page "GlaxoSmithKline." Document YX-4 provided detailed information on a particular GSK biopharmaceutical product under development including testing data, internal acceptance criteria, regulatory release information, and stability specifications. Document YX-4 contained GSK trade secret and confidential information.

57. Document YX-5 was a 63-page GSK Investigational New Drug document regarding a GSK biopharmaceutical product under development targeting human tumor necrosis factor-alpha receptor 1 (TNFR1). Document YX-5 was marked "Confidential" on every page. Document YX-5 contained highly detailed descriptions and experimental results of this development drug, including: (a) the specific nucleotide and amino acid sequence, (b) information about the reference standard and characterization testing, (c) information about GSK's Master Cell Bank, including acceptance criteria, (d) information about the container closure system, and (e) stability testing results. Document YX-5 contained GSK trade secret and confidential information.

58. Document YX-6 was a 99-page GSK document titled, "Candidate Selection Technical Evidence Document, GSK3174998 (Hu106-222 WT), OX40 Agonist mAb." Document YX-6 provided detailed technical evidence concerning a particular GSK biopharmaceutical product under development. Document YX-6 further provided test results, conclusions, and plans for this particular product. Document YX-6 contained GSK trade secret

and confidential information.

59. Document YX-7 was a 75-page GSK Investigational New Drug document regarding a GSK biopharmaceutical product under development. Document YX-7 is marked "Confidential" on every page. Document YX-7 contained highly detailed descriptions and experimental results of this development drug, including: (a) the complete amino acid sequence, (b) a description of the manufacturing process, (c) results of analytical characterization and comparability testing, (d) analytical method descriptions, methods qualification, and batch analyses, (e) a description of the reference standard and storage conditions, (f) a description of the container closure system, and (g) stability testing data. Document YX-7 contained GSK trade secret and confidential information.

The Conspiracy

60. From on or about January 1, 2010, through on or about January 5, 2016, in the Eastern District of Pennsylvania, and elsewhere, defendants

**YU XUE,
a/k/a "Joyce,"
TAO LI,
YAN MEI,
TIAN XUE, and
LUCY XI,
a/k/a "Lu Xi"**

conspired and agreed together and with others known and unknown to the grand jury, to commit an offense against the United States, that is, to knowingly execute, and attempt to execute, a scheme to defraud, and to obtain property from GSK by means of false and fraudulent pretenses, representations, and promises, and in furtherance of the scheme used interstate wires, in violation of Title 18, United States Code, Section 1343.

MANNER AND MEANS

61. It was part of the conspiracy that defendants YU XUE and LUCY XI stole trade secret and otherwise confidential information from their employer, GSK. Defendant YU XUE typically transferred the trade secret and otherwise confidential information from GSK to her personal control either by e-mail or by portable electronic storage device, in violation of known company policy and her employment agreement. Defendant YU XUE then transferred the trade secret and otherwise confidential information to defendant TAO LI and defendant YAN MEI via e-mail or portable electronic storage device. Defendant LUCY XI typically e-mailed the stolen information to her husband, defendant YAN MEI.

62. The stolen information contained GSK trade secrets regarding multiple biopharmaceutical products under development, GSK research data, and GSK processes regarding the research, development, and manufacturing of biopharmaceutical products. One of the difficult challenges in researching and developing pharmaceutical products is to find an antibody which successfully “binds” to the target cell. A second difficult challenge is called “humanization” - which is the process of transforming an antibody which works well in animal experiments into an antibody which works well in humans. A third difficult challenge is in the manufacturing process – it is difficult to harvest the specific antibodies produced and purify the final product in order to safely inject it into the human body.

63. The GSK trade secret and otherwise confidential information which defendant YU XUE stole concerned all of these challenges. In addition, defendant YU XUE stole information pertaining to other GSK products and products in development, even products she was not researching. Many of the stolen documents contained GSK’s procedures for

researching, developing, and manufacturing biopharmaceutical products which had been developed by GSK over many years – information which would be especially useful for a start-up biopharmaceutical company. Defendants YU XUE and LUCY XI transmitted this stolen trade secret and otherwise confidential information to defendants TAO LI, YAN MEI, and TIAN XUE either through e-mail or through portable storage devices. Defendant TAO LI's personal electronic storage device contained entire folders of GSK trade secret and confidential information which had been provided to him by defendant YU XUE. In addition, defendant YU XUE maintained a substantial amount of GSK trade secret and confidential information on her own personal electronic storage devices in violation of her employment agreement with GSK.

64. Defendants YU XUE, TAO LI, and YAN MEI formed three corporations, Renopharma, Inc., Nanjing Renopharma, Ltd, and Shanghai Renopharma, Ltd. (collectively “RENOPHARMA”) to market, sell, and ultimately profit from the stolen trade secret and otherwise confidential information. Defendants YU XUE, TAO LI, and YAN MEI planned to profit from the stolen GSK information in multiple ways. First, defendants YU XUE, TAO LI, and YAN MEI intended to sell the stolen GSK information as RENOPHARMA research. According to their own sales projections, defendants YU XUE, TAO LI, and YAN MEI expected RENOPHARMA to have seven drugs patented and have 500 million renminbi in annual sales by 2017. Second, defendants YU XUE, TAO LI, and YAN MEI intended to use the stolen GSK information to secure lucrative consulting contracts with third parties. Third, defendants YU XUE, TAO LI, and YAN MEI intended to perform additional research to finalize and perfect GSK products still in development based upon the stolen information. Fourth, defendants YU XUE, TAO LI, and YAN MEI intended to patent some of the GSK products still

in development ahead of GSK. Fifth, defendants YU XUE, TAO LI, and YAN MEI intended to use the stolen GSK information to bolster RENOPHARMA's credentials and reputation to secure lucrative investments and grants from private investors, government entities, and other sources. Defendants YU XUE and TAO LI provided gifts and undisclosed interest in RENOPHARMA to certain persons in order to secure these funds.

65. To hide these profits, defendant YU XUE titled her interest in RENOPHARMA and the criminal proceeds in the names of family members and other associates. Defendants YU XUE, TAO LI, YAN MEI, and LUCY XI also created a U.S. corporation called Humanabio, Inc. as a U.S. subsidiary of RENOPHARMA to hide their association with Nanjing Renopharma, Ltd., and Shanghai Renopharma, Ltd., and otherwise facilitate the RENOPHARMA objective of marketing, selling, and profiting from the stolen GSK information.

66. Defendant YU XUE also secured the assistance of Person 1, who was a scientist working at an institute in Switzerland. Defendant YU XUE sent Person 1 GSK trade secret and confidential documents. Person 1 provided defendant YU XUE with confidential scientific documents from his institute. Person 1 also assisted defendants YU XUE, TAO LI, and YAN MEI by, inter alia, testing antibody samples sent to him from RENOPHARMA and associated companies in China.

OVERT ACTS

In furtherance of the conspiracy, defendants YU XUE, TAO LI, YAN MEI, TIAN XUE, and LUCY XI and others, known and unknown to the grand jury, committed the following overt acts in the Eastern District of Pennsylvania and elsewhere:

1. On or about November 9, 2010, Person 1 sent an e-mail to defendant YU XUE which stated: "I attached three files: application, manuscript and an article which may help you. The first two files are highly confidential! you should NOT show to another person." That e-mail further stated, "Once again, the frist [sic] two files are highly confidential. You do not need to find out an excuse or reason to work on it or speak about it in public WITHOUT MENTIONING anything related to our lab or institute. In the supplementary part of my manuscript, I listed the literatures publishing Twist, you may say that you start from those published data, blah, blah blah You better forward this e-mail to your private email address and delete."

2. On or about November 9, 2010, Person 1 sent an e-mail to defendant YU XUE which stated, "do not call me at work, there are some new chinese students now. you can call me at home today."

3. On or about December 17, 2010, Person 1 sent an e-mail to defendant YU XUE with information about the role and mechanism of MerTK receptor in human cells, including the fact that MerTK is overexpressed in certain forms of cancer.

4. On or about December 27, 2010, Person 1 sent an e-mail to defendant YU XUE which contained additional information about MerTK.

5. On or about March 5, 2011, Person 1 sent an e-mail to defendant YU XUE with an attachment which contained information regarding a scientific discovery in anti-cancer drugs.

6. On or about March 6, 2011, defendant YU XUE e-mailed from her personal e-mail account to her GSK e-mail account the attachment which Person 1 sent to her the

previous day. Defendant YU XUE modified the attachment to list herself as the author of the attachment.

7. On or about February 13, 2012, defendant YU XUE sent an e-mail to defendant LUCY XI and attached a GSK powerpoint presentation titled "Potent Antibody Drugs by Design" which contained confidential GSK information.

8. On or about February 13, 2012, defendant LUCY XI forwarded the e-mail from defendant YU XUE which contained the "Potent Antibody Drugs by Design" presentation to defendant YAN MEI.

9. On or about March 21, 2012, defendant YAN MEI sent an e-mail to defendant LUCY XI which contained a business plan for a new company as an attachment.

10. On or about April 1, 2012, defendant YU XUE sent an e-mail from her personal e-mail account to defendant TIAN XUE which contained a business plan for a new company as an attachment, similar to the business plan defendant YAN MEI sent to defendant LUCY XI on March 21, 2012. In the body of that e-mail, defendant YU XUE wrote, "DO not give to her for now, you can have a look at it. It takes me a lot of time to finish it. Be very careful to send it out."

11. On or about April 1, 2012, defendant YU XUE sent an e-mail from her personal e-mail account to defendant YAN MEI which contained the same or similar business plan for a new company as an attachment which defendant YU XUE sent to defendant TIAN XUE earlier in the day.

12. On or about April 20, 2012, defendant YAN MEI drafted and circulated a business plan for Humanabio, Inc.

13. On or about June 20, 2012, defendant YU XUE exchanged messages with defendant TAO LI about a draft RENOPHARMA document which they intended to use to market the stolen data at a pharmaceutical convention. Defendant YU XUE instructed defendant TAO LI to delete a reference to "philadelphia PA" on the document. Defendant TAO LI asked, "why?" Defendant YU XUE replied, "Alot of people from GSK attend [sic]" the conference.

14. On or about June 28, 2012, defendant TAO LI sent an e-mail to defendant YUE XU which stated, "We 4 may need [to] discuss together about the organization of the company [RENOPHARMA] You [YU XUE] are the core person in this project and you need to think about how to protect yourself."

15. On or about July 2, 2012, defendant YU XUE sent an e-mail from her personal e-mail account to defendant TAO LI which contained Document 35 as an attachment.

16. On or about July 2, 2012, defendant YU XUE exchanged messages with defendant TAO LI. Defendant YU XUE stated that she would send HER and EGFR "stuff" from her "personal computer." Defendant TAO LI replied, "OK." Defendant YU XUE stated that it was too dangerous to send this data from "the company" [GSK]. Defendant TAO LI replied, "yeah, we should be very careful."

17. On or about July 3, 2012, defendant YU XUE exchanged messages with defendant TAO LI. Defendant TAO LI asked defendant YU XUE if she had time to talk on the phone. Defendant YU XUE replied that she did. Defendant TAO LI asked defendant YU XUE, "is it ok to call your office [at GSK]? People around you?" Defendant YU XUE replied that it was acceptable for her to talk because she had her "own office [at GSK]." Defendant YU

XUE then stated to defendant TAO LI, "hopefully nobody listen the phone [sic]."

18. On or about July 8, 2012, defendant YU XUE sent an e-mail from her personal e-mail account to defendant TIAN XUE which contained a RENOPHARMA business plan. The cover page to the business plan stated that RENOPHARMA would be providing monoclonal antibody humanization services.

19. On or about July 16, 2012, defendant YU XUE caused Renopharma, Inc., to be incorporated in Delaware.

20. On or about July 31, 2012, defendant YAN MEI exchanged messages with defendant LUCY XI about defendant YU XUE's future plans. Defendant LUCY XI told defendant YAN MEI that defendant YU XUE intended to quit her job at GSK in one or two years. Defendant LUCY XI explained that defendant YU XUE wanted to "get the money first." Defendant YAN MEI replied, "that is our plan."

21. Later on or about July 31, 2012, defendant YAN MEI exchanged additional messages with defendant LUCY XI. Defendant YAN MEI explained to defendant LUCY XI that he had almost completed the "R&D plan" and "CRO plan" for RENOPHARMA. Defendant LUCY XI suggested that defendant YAN MEI "check some books of negotiation and leadership" in order to build up his skill set for his job at RENOPHARMA.

22. On or about August 28, 2012, defendant YAN MEI exchanged messages with defendant LUCY XI about defendant YU XUE. Defendant LUCY XI complained to defendant YAN MEI that defendant YU XUE had been "annoying" her recently. Defendant YAN MEI counseled defendant LUCY XI, "don't lose [your] temper" with defendant YU XUE. Defendant LUCY XI replied, "I won't . . . she is the queen." At the end of the conversation,

defendant LUCY XI stated, "Yu [YU XUE] showed me an email she drafted." Discussing the terms of a RENOPHARMA deal, defendant LUCY XI suggested, "I think you should take out the 10% to 25% out. It is too much. lets just use 30% as the starting point."

23. On or about August 28, 2012, defendant TIAN XUE exchanged messages with defendant YU XUE and discussed RENOPHARMA's finances. Defendant YU XUE expressed confidence that she could get investments in RENOPHARMA through a "special government fund." Defendant YU XUE stated that she intended to travel to China to meet with certain government officials to persuade the government to invest in RENOPHARMA. Defendant YU XUE related that she planned to give two officials expensive gifts because they are the most critical people in persuading the government to invest. Defendant YU XUE stated that she intended to give a two hour presentation in China in September for the government officials. Defendant YU XUE stated that she hoped that the government would invest 15 million yuan into RENOPHARMA.

24. On or about August 28, 2012, defendant TIAN XUE exchanged messages with defendant YU XUE and further discussed RENOPHARMA finances. Defendant YU XUE stated that she expected her salary to be about 400,000 yuan per year. Defendant YU XUE stated that she would split this salary evenly with defendant TIAN XUE. Rather than repatriate her proceeds of the fraud to the United States, defendant YU XUE stated that she intended to put 50,000 yuan in her mother's name, 50,000 yuan in her eldest brother's name, 50,000 yuan in the name of her husband's family, and keep 50,000 yuan in China for her children to spend when they are in Beijing. Defendant YU XUE stated that she did not care about her salary, she only cared about how many shares of RENOPHARMA she owned. Defendant TIAN XUE asked

defendant YU XUE, "are you going to quit from jsk [GSK]." Defendant YU XUE replied, "no" and explained, "This is why I am the core figure."

25. On or about August 29, 2012, defendant YU XUE instructed defendant TIAN XUE to set up a computer database for RENOPHARMA.

26. On or about September 3, 2012, defendant YU XUE sent an e-mail from her personal e-mail account to defendants TAO LI, YAN MEI, and TIAN XUE. Attached to the e-mail was a powerpoint presentation titled "Structure guided design of antibodies for therapeutic application." The first slide indicated that it was written by "Yu Xue, Ph.D. Renopharma." The powerpoint presentation described the services that RENOPHARMA offered. The presentation described the results of tests on potential antibodies currently being researched. While not trade secret information, the powerpoint provided research and other information which defendant YU XUE took without authorization from GSK.

27. On or about September 4, 2012, defendant LUCY XI exchanged messages with defendant YAN MEI about his RENOPHARMA work. Defendant LUCY XI instructed defendant YAN MEI, "You need to practice before you present." Defendant LUCY XI then stated, "I told Yu [YU XUE] that you did not send [a] copy [of the presentation] to her because Tao [TAO LI] wants to combine yours with his and then Tao [TAO LI] will send it to Yu [YU XUE]." Defendant LUCY XI chastised defendant YAN MEI, "Be careful in the future. Dont disappoint me anymore. it is really stupid the way you handle stuff."

28. On or about October 4, 2012, defendant TAO LI created a website, humanabio.com with GoDaddy, an internet service provider.

29. On or about October 11, 2012, defendant YU XUE sent an e-mail from

her personal e-mail account to defendant YAN MEI which contained a RENOPHARMA powerpoint presentation titled, "Structure guided design of antibodies for therapeutic application." The powerpoint presentation discussed how RENOPHARMA would engineer the next generation of antibodies. The presentation discussed RENOPHARMA's expertise in humanization, affinity maturation, and manufacturing – all work that defendant YU XUE performed for GSK. The presentation showed computer generated models of potential antibody candidates and how they would bind to the receptors.

30. On or about October 11, 2012, defendant YU XUE exchanged messages with defendant TAO LI and stated she was not "comfortable" sending a GSK file to a particular company in China. Knowing that she could be caught if the GSK file was traced back to her, defendant YU XUE instructed defendant TAO LI, "do not give any slide copy to them" because it was "too dangerous."

31. On or about December 19, 2012, defendant TAO LI sent an e-mail to a business associate which stated that RENOPHARMA's goal was "to make a new type of drug which possesses Chinese intellectual property rights". This e-mail attached a powerpoint presentation, entitled "RenoPharma Macromolecular Biopharmaceutical Production Project Plan." The powerpoint presentation used stolen GSK research as RENOPHARMA's own research and stated that RENOPHARMA had a "unique technological advantage" which allowed RENOPHARMA to bypass certain steps in drug development. This powerpoint presentation further stated:

a. "Our team hopes to be able to use the skills that we have learned in the US to serve our country, collaborate with organizations in China, quickly develop a series of

world-class macromolecular drugs truly with independent Chinese intellectual property rights.”

b. “[We] will build in China an advanced biopharmaceutical technology platform with an international patent and contribute to China’s independent pharmaceutical research and development.

c. “So far, our team members have successfully research[ed] and developed 6 highly effective humanized antibodies which are all currently at the clinical test stage.”

32. On or about January 1, 2013, defendant LUCY XI sent an e-mail to defendant YAN MEI. The subject line of the e-mail read, “a good paper to read.” In the body of the e-mail defendant LUCY XI stated to defendant YAN MEI, “You need to understand it very well. It will help you in your future business [RENOPHARMA].” Defendant LUCY XI attached Document 33 to the e-mail.

33. On or about January 15, 2013, defendant TAO LI exchanged messages with defendant YU XUE. Defendant YU XUE told defendant TAO LI that she “got in detailed information about how to sequence mouse antibody in hybridoma cells.” Defendant YU XUE told defendant TAO LI that she would send him that information from her “home computer tonight.” Concerned she might get caught sending the trade secret information by e-mail, defendant TAO LI instructed defendant YU XUE, “Let me get it next time I visit you. Don’t forward using e-mails.”

34. On or about January 25, 2013, defendant YU XUE sent an e-mail from her personal e-mail account to defendant YAN MEI which contained Document 32 as an attachment.

35. On or about April 2, 2013, defendant TAO LI sent an e-mail to defendant

YAN MEI about a researcher in Wisconsin who was charged with stealing details of a cancer-fighting compound. Defendant YAN MEI replied, "This sounds scary."

36. On or about April 11, 2013, defendant YU XUE sent an e-mail from her GSK work e-mail account to her personal e-mail account which contained Document 56 as an attachment.

37. On or about April 11, 2013, Person 1 sent an e-mail to defendant YU XUE which stated, "Dayu, I got more striking results today. I inhibits autophagy in melanoma cells with MerTK depletion and cells start to die; I treat melanoma cells with BRAF inhibitor and autophagy inhibitor cell start to die! Keep confidential please."

38. On or about May 8, 2013, defendant YU XUE sent an e-mail to defendant TAO LI which asked, "DO you still need MerTK background? I got an email last night that will focus her Her3" to which defendant TAO LI replied, "Can you call me now?"

39. On or about June 26, 2013, defendant YU XUE sent an e-mail from her personal e-mail account to defendants YAN MEI and TAO LI. In the e-mail, defendant YU XUE explained that defendant TIAN XUE was going to contribute "100%" to RENOPHARMA's work. Defendant YU XUE further indicated the RENOPHARMA server and electronic system can be set-up by defendant TIAN XUE and left with defendant TIAN XUE in the U.S. Defendant YU XUE also indicated that all proceeds from RENOPHARMA belonging to defendant YU XUE should be put in defendant TIAN XUE's name. Defendant YU XUE stated, "She (TIAN XUE) could use her real name and represent me. If we need to go back to China to process legal documents, she (TIAN XUE) will go with me as well."

40. On or about September 25, 2013, defendant YU XUE sent an e-mail from

her personal e-mail account to defendants TAO LI and YAN MEI which contained Document 9 as an attachment.

41. On or about October 11, 2013, defendants LUCY XI sent YAN MEI an e-mail warning him about two scientists working at Eli Lilly who had been indicted for stealing trade secret information.

42. On or about October 11, 2013, defendant YU XUE sent defendants TAO LI and YAN MEI an e-mail with a link to a newspaper article about an Eli Lilly scientist indicted for stealing trade secrets. In a subsequent exchange of messages later that day, defendant YU XUE warned defendant TAO LI that "all GSK [employees] had a meeting this morning." Defendant YU XUE stated that GSK set up a "hotline." Defendant YU XUE then commented "so scary." Defendant YU XUE then warned defendant TAO LI to be careful with the stolen GSK trade secret information, "Please do not send any DOc contained [sic] GSK data out" and "DO not mention Her3."

43. On or about November 2, 2013, defendant TAO LI sent an e-mail to a business associate which read, "We plan to make about 10 mAbs including PD1 and MERTK abs and save those in our bank. These are our preliminary list."

44. On or about November 8, 2013, defendant YU XUE sent Person 1 an e-mail which contained a portion of Document Z as an attachment.

45. On or about November 8, 2013, defendant YU XUE sent Person 1 an e-mail which contained Document TL-5 as an attachment.

46. On or about November 27, 2013, defendant YU XUE sent an e-mail from her GSK account to her personal e-mail account which contained Document GSK B as an

attachment.

47. On or about January 19, 2014, defendant YU XUE sent an e-mail from her personal e-mail account to defendant TAO LI which contained Document 15-1 and Document 15-2 as attachments.

48. On or about January 18, 2014, defendant TAO LI forwarded the e-mail from defendant YU XUE which contained Document 15-1 and Document 15-2 as attachments to defendant YAN MEI.

49. In or about February 2014, on behalf of RENOPHARMA, defendants YU XUE, TAO LI, and YAN MEI received a 1 million yuan government grant to promote science and technology.

50. On or about February 3, 2014, defendant YU XUE sent an e-mail from her work account to her personal account. A few minutes later, defendant YU XUE forwarded that e-mail from her personal e-mail account to defendants TAO LI and YAN MEI. Both e-mails contained Document G as an attachment.

51. On or about February 17, 2014, defendant YU XUE sent an e-mail which contained Document GSK C as an attachment from her GSK e-mail account to her personal e-mail account.

52. On or about February 17, 2014, defendant YU XUE sent an e-mail which contained Document GSK C as an attachment from her personal e-mail account to defendant YAN MEI.

53. On or about February 17, 2014, defendant YAN MEI forwarded the e-mail from defendant YU XUE which contained Document GSK C as an attachment to defendant TAO

LI.

54. On or about February 19, 2014, defendant YU XUE sent an e-mail from her personal e-mail account to defendants TAO LI and YAN MEI which contained Document 21 as an attachment.

55. In or about March 2014, defendants YU XUE, TAO LI, and YAN MEI received a 32,000 yuan grant from a university for RENOPHARMA.

56. On or about March 3, 2014, defendant YU XUE sent Person 1 an e-mail with Document U as an attachment.

57. On or about March 3, 2014, defendant YU XUE sent Person 1 an e-mail with Document W as an attachment.

58. On or about March 3, 2014, defendant YU XUE sent Person 1 an e-mail with Document X-1, Document X-2, Document X-3, Document X-4, Document X-5, Document X-6, and Document X-7 as attachments.

59. On or about March 9, 2014, defendant YU XUE sent an e-mail from her personal e-mail account to defendants TAO LI and YAN MEI which contained Document 23 as an attachment.

60. On or about April 16, 2014, defendant YAN MEI sent an e-mail to a person who provided corporate services. Defendant YAN MEI stated, "We (Nanjing Renopharma, Inc., LTD) authorize you to [re]present us to register the company in USA and handle all related material. Our company's name is HumanaBio Inc., register address is 1 innovation way newark, DE 19711."

61. In or about May 2014, defendants YU XUE, TAO LI, and YAN MEI

received a 2,500,821.77 yuan investment in RENOPHARMA.

62. In or about May 2014, defendants YU XUE, TAO LI, and YAN MEI received a 30,000 yuan award for RENOPHARMA from the Nanjing Jiangning Science Park for Talents.

63. On or about June 16, 2014, defendant YAN MEI opened a bank account for Humanabio, Inc. at Bank of America.

64. On or about June 30, 2014, defendant TAO LI transferred Document TL-1, Document TL-2, Document TL-3, Document TL-4, Document TL-5, and Document TL-6 onto his personal computer.

65. On or about July 11, 2014, defendants YU XUE, TAO LI, and YAN MEI caused a wire transfer in the amount of \$50,000 to be sent from Nanjing Renopharma, Ltd., to Humanabio, Inc.

66. On or about September 10, 2014, Person 1 sent an e-mail to YU XUE which stated, "These are the sequences. The PDL2 has already crystal structure in PDB. The MerTK does not have (these are extracellular domains.) I wonder if the interaction can be simulated by computer." The e-mail also included the sequences for MerTK and PDL2.

67. On or about September 23, 2014, on behalf of RENOPHARMA, YU defendants XUE, TAO LI, and YAN MEI received 200,000 yuan award from the State Fund for Youth Foundation.

68. On or about September 26, 2014, Person 1 sent an e-mail to defendant YU XUE providing her his work mailing address in Switzerland to ship certain RENOPHARMA monoclonal antibodies. Person 1 stated, "You can send me 5 ml of each clone of PDL2 and

PDL1 antibodies. It is also better if you can send me some of these peptides.”

69. On or about October 8, 2014, defendant YAN MEI sent an e-mail to a company working under contract for RENOPHARMA to send certain monoclonal antibodies to Person 1 at his work address in Switzerland for Person 1 to test those monoclonal antibodies.

70. On or about October 11, 2014, Person 1 sent defendant YU XUE an e-mail containing an attachment with a computer image of the MERTK and PDL2 interface.

71. On or about October 14, 2014, on behalf of RENOPHARMA, defendants YU XUE, TAO LI, and YAN MEI received 250,000 yuan from the 2014 Provincial Medium and Small Science and Technology Businesses Science Innovation Fund.

72. On or about October 17, 2014, defendant YAN MEI paid the Delaware franchise tax of \$254 for Humanabio, Inc. and listed himself as “President” of Humanabio, Inc.

73. On or about October 27, 2014, defendant YU XUE sent an e-mail to Person 1 which asked, “is today’s biological data good? Thank you.”

74. On or about October 27, 2014, Person 1 replied to defendant YU XUE e-mail which stated, “Just started, not yet finished. It takes a few days since the concentration need to be optimized.”

75. On or about October 27, 2014, Person 1 sent an e-mail from his personal e-mail account to his work e-mail account referencing the ten monoclonal antibodies which defendant YAN MEI had caused to be sent to him from China.

76. On or about October 27, 2014, Person 1 sent an e-mail to defendant YU XUE which stated:

a. “I am just waiting for the mertk patent out next year (that is the

reason I told you to make the mertk antibody). If these antibodies are good and get patented, we will have absolute control of this targeted therapy.”

b. “I will give a talk about mertk in cancer immunotherapy in basel and want to show a little bit about the pdl2 antibody. Does this interfere with anything? Can I say these antibodies are from your company (name???) if some of them want to have a sample can I give them?”

c. “I also want to remind you that your 30% of share [in RENOPHARMA] is too less, because if they [defendants TAO LI and YAN MEI] both cooperate then you will be officially out of control. you should have more than 50%. In any case you should NOT quit your job, because 95% of these startups die after one or two years, although all of them did have good products in hand at the beginning, but most of them did not work out for various reasons.”

77. On or about October 28, 2014, Person 1 sent an e-mail from his work e-mail account to his personal e-mail account referencing the ten monoclonal antibodies which defendant YAN MEI had caused to be sent to him from China with added notes about tests which Person 1 performed on these ten monoclonal antibodies on behalf of RENOPHARMA.

78. On or about October 29, 2014, defendant TAO LI sent defendant YU XUE an e-mail which contained information about the “MERTK sequence.”

79. On or about October 31, 2014, Person 1 e-mailed a Declaration to defendant TAO LI regarding the research on the ten monoclonal antibodies which defendant YAN MEI had caused to be sent to him from China. In the Declaration, Person 1 summarized: (a) what monoclonal antibodies he had received, (b) what tests he performed for

RENOPHARMA, (c) the results of those tests, and (d) what he sent back to RENOPHARMA.

Person 1 further confirmed that: (1) all leftover materials were permanently destroyed, (2) all records included data and images were permanently deleted, (3) anything related to the materials sent would never appear in any public or private domain, and (4) all other copies of the data were permanently erased.

80. On or about November 7, 2014, defendants YU XUE, TAO LI, and YAN MEI received 250,000 yuan for "Sales service provided to a U.S company" on behalf of RENOPHARMA.

81. On or about November 12, 2014, defendants YU XUE, TAO LI, and YAN MEI received 350,000 yuan from a person or company for "services" provided by RENOPHARMA.

82. On or about December 16, 2014, on behalf of RENOPHARMA, defendants YU XUE, TAO LI, and YAN MEI received a 30,000 yuan grant from the Ministry of Human Resources and Social Security.

83. On or about December 29, 2014, on behalf of RENOPHARMA, defendants YU XUE, TAO LI, and YAN MEI received 40,000 yuan for "expert service" from the Ministry of Human Resources and Social Security.

84. On or about February 3, 2015, defendant YU XUE sent an e-mail from her GSK e-mail account to her personal e-mail account which contained Document G as an attachment.

85. On or about April 23, 2015, on behalf of RENOPHARMA, defendants YU XUE, TAO LI, and YAN MEI received 30,000 yuan in government rent subsidies.

86. On or about May 18, 2015, on behalf of RENOPHARMA, defendants YU XUE, TAO LI, and YAN MEI received 200,000 yuan in "Talents Funding."

87. On or about August 17, 2015, defendant YU XUE sent an e-mail from her personal e-mail account to defendants TAO LI and YAN MEI which contained Document 36 as an attachment.

88. On or about January 5, 2016, defendant TAO LI possessed on his personal electronic storage devices Document TL-1, Document TL-2, Document TL-3, Document TL-4, Document TL-5, and Document TL-6.

89. On or about January 5, 2016, defendant YU XUE possessed in her personal electronic storage devices Document YX-1, Document YX-2, Document YX-3, Document YX-4, Document YX-5, Document YX-6, and Document YX-7.

90. On or about January 5, 2016, defendant TAO LI possessed in a personal electronic storage device a powerpoint presentation for the 2013 Nanjing 321 Recruitment Program in an attempt to secure funding for RENOPHARMA from certain Chinese government programs and agencies. This powerpoint stated that RENOPHARMA was currently developing a biopharmaceutical product targeting HER3 when, in fact, the product and the corresponding data about that product presented in the powerpoint presentation were previously stolen from GSK.

91. On or about January 5, 2016, defendant TAO LI possessed in a personal electronic storage device a RENOPHARMA marketing powerpoint presentation written by defendant YU XUE titled, "Structure guided designs of antibodies for therapeutic application." The powerpoint presentation purported to contain RENOPHARMA research when, in fact, the

powerpoint presentation contained confidential GSK research.

92. On or about January 5, 2016, defendant YU XUE possessed in a personal electronic storage device a RENOPHARMA marketing powerpoint presentation written by defendant YU XUE titled, "Structure guided designs of antibodies for therapeutic application." The powerpoint presentation purported to contain RENOPHARMA research when, in fact, the powerpoint presentation contained confidential GSK research.

93. On or about January 5, 2016, defendant TAO LI possessed in a personal electronic storage device 36 pages of the 39-page Document Z. According to the metadata in this file, this document was last modified on August 31, 2014 by defendant YU XUE.

94. On or about January 5, 2016, defendant TAO LI possessed in a personal electronic storage device Document 36 and Document YX-6. Document 36 and Document YX-6 contained the same data pertaining to a GSK biopharmaceutical product under development except that references to GSK in Document YX-6 have been replaced by references to RENOPHARMA in Document 36.

95. On or about January 5, 2016, defendant TAO LI possessed in a personal electronic storage device a document labeled "Reno1." Document Reno1 contained GSK data concerning a GSK biopharmaceutical product under development described in Document TL-5 and Document TL-6 except that references to GSK in document Reno1 had been replaced by references to RENOPHARMA.

All in violation of Title 18, United States Code, Section 1349.

COUNT TWO

THE GRAND JURY FURTHER CHARGES THAT:

1. Paragraphs 1 through 59 and 61 through 66 and Overt Acts 1 through 95 of Count One are incorporated here.
2. From on or about January 1, 2010, through on or about January 5, 2016, in the Eastern District of Pennsylvania and elsewhere, defendants

**YU XUE,
a/k/a "Joyce,"
TAO LI,
YAN MEI, and
LUCY XI,
a/k/a "Lu Xi,"**

conspired and agreed together and with others known and unknown to the grand jury, to:

- (a) knowingly and without authorization steal, appropriate, take, carry away, and conceal, or by fraud, artifice, or deception obtain trade secrets belonging to GSK;
- (b) knowingly and without authorization copy, duplicate, sketch, draw, alter, photocopy, replicate, transmit, deliver, send, communicate, and convey trade secrets belonging to GSK; and
- (c) knowingly receive, buy, and possess trade secrets belonging to GSK, knowing the same to have been stolen, appropriated, obtained, and converted without authorization; intending to convert a trade secret that is related to and included in products that are produced for and placed in interstate and foreign commerce, to the economic benefit of someone other than

GSK, and intending and knowing that the offense would injure GSK, in violation of Title 18, United States Code, Sections 1832(a)(1), (a)(2), and (a)(3).

All in violation of Title 18, United States Code, Section 1832(a)(5).

COUNT THREE

THE GRAND JURY FURTHER CHARGES THAT:

1. Paragraphs 1 through 59 and 61 through 66 and Overt Acts 1 through 95 of Count One are incorporated here.
2. From on or about January 1, 2012, through on or about January 5, 2016, in the Eastern District of Pennsylvania and elsewhere, defendants

**YU XUE,
a/k/a "Joyce,"
TAO LI,
YAN MEI, and
TIAN XUE**

conspired and agreed together and with others known and unknown to the grand jury, to knowingly conduct a financial transaction involving the proceeds of specified unlawful activity, specifically, wire fraud, in violation of Title 18, United States Code, Section 1343, with the intent that the transaction was or would be designed in whole or in part to conceal or disguise the nature, the location, the source, the ownership, or the control of the proceeds of the specified unlawful activity, in violation of Title 18, United States Code, Section 1956(a)(1)(B)(i).

MANNER AND MEANS

It was part of the conspiracy that:

3. Defendants YU XUE, TAO LI, YAN MEI, and TIAN XUE and others, known and unknown to the grand jury, conspired to commit wire fraud, as described in Count One of this indictment, and committed wire fraud, as described in Counts Four through Nineteen of this indictment.
4. As part of that conspiracy, defendants YU XUE, TAO LI, YAN MEI, and

TIAN XUE agreed that the proceeds of defendant YU XUE's criminal conduct be titled under the names of TIAN XUE, other family members, and other associates in order to conceal the nature, location, source, ownership, and control of the proceeds, thus concealing defendant YU XUE's association with the wire fraud.

In violation of Title 18, United States Code, Section 1956(h).

COUNTS FOUR THROUGH NINETEEN

THE GRAND JURY FURTHER CHARGES THAT:

1. Paragraphs 1 through 59 and 61 through 66 and Overt Acts 1 through 95 of Count One are incorporated here.
2. From on or about January 1, 2010, through on or about January 5, 2016, in the Eastern District of Pennsylvania, and elsewhere, defendants

**YU XUE,
a/k/a "Joyce,"
TAO LI,
YAN MEI, and
LUCY XI,
a/k/a "Lu Xi,**

devised and intended to devise a scheme to defraud and to obtain property from GSK by means of false and fraudulent pretenses, representations, and promises.

3. On or about each of the dates set forth below, in the Eastern District of Pennsylvania and elsewhere, defendants

**YU XUE,
a/k/a "Joyce,"
TAO LI,
YAN MEI, and
LUCY XI,
a/k/a "Lu Xi,**

for the purpose of executing the scheme described above, and attempting to do so, caused to be transmitted by means of wire communication in interstate and foreign commerce the signals and sounds described below for each count, each transmission constituting a separate count:

COUNT	DATE	DESCRIPTION
FOUR	July 2, 2012	Document 35 E-mail
FIVE	January 1, 2013	Document 33 E-mail
SIX	January 25, 2013	Document 32 E-mail

COUNT	DATE	DESCRIPTION
SEVEN	April 11, 2013	Document 56 E-mail
EIGHT	September 25, 2013	Document 9 E-mail
NINE	November 8, 2013	Document Z E-mail
TEN	November 27, 2013	Document GSK B E-mail
ELEVEN	January 19, 2014	Document 15-1 and Document 15-2 E-mail
TWELVE	February 17, 2014	Document GSK C E-mail
THIRTEEN	February 19, 2014	Document 21 E-mail
FOURTEEN	March 3, 2014	Document U E-mail
FIFTEEN	March 3, 2014	Document W E-mail
SIXTEEN	March 3, 2014	Documents X-1 through X-7 E-mail
SEVENTEEN	March 9, 2014	Document 23 E-mail
EIGHTEEN	February 3, 2015	Document G E-mail
NINETEEN	August 17, 2015	Document 36 E-mail

All in violation of Title 18, United States Code, Section 1343.

COUNT TWENTY

THE GRAND JURY FURTHER CHARGES THAT:

1. Paragraphs 1 through 59 and 61 through 66 and Overt Acts 1 through 95 of Count One are incorporated here.
2. On or about July 2, 2012, in the Eastern District of Pennsylvania, defendant

**YU XUE,
a/k/a "Joyce,"**

knowingly stole, and without authorization appropriated, took, and carried away trade secrets belonging to GSK, specifically the trade secrets contained in Document 35, which are related to and included in a product that is produced for and placed in interstate and foreign commerce, intending to convert such trade secrets to the economic benefit of someone other than GSK, and intending and knowing that the offense would injure GSK.

In violation of Title 18, United States Code, Section 1832(a)(1).

COUNT TWENTY-ONE

THE GRAND JURY FURTHER CHARGES THAT:

1. Paragraphs 1 through 59 and 61 through 66 and Overt Acts 1 through 95 of Count One are incorporated here.
2. On or about July 2, 2012, in the Eastern District of Pennsylvania, defendant

**YU XUE,
a/k/a "Joyce,"**

knowingly and without authorization attempted to copy, duplicate, sketch, draw, download, upload, alter, photocopy, replicate, transmit, deliver, send, communicate, and convey trade secrets belonging to GSK, specifically the trade secrets contained in Document 35, which are related to and included in a product that is produced for and placed in interstate and foreign commerce, intending to convert such trade secrets to the economic benefit of someone other than GSK, and intending and knowing that the offense would injure GSK.

In violation of Title 18, United States Code, Section 1832(a)(2).

COUNT TWENTY-TWO

THE GRAND JURY FURTHER CHARGES THAT:

1. Paragraphs 1 through 59 and 61 through 66 and Overt Acts 1 through 95 of Count One are incorporated here.
2. On or about July 2, 2012, in the Eastern District of Pennsylvania and elsewhere, defendants

**YU XUE,
a/k/a "Joyce," and
TAO LI**

knowingly received, bought, and possessed a trade secret belonging to GSK, specifically the trade secrets contained in Document 35, knowing it to have been stolen and appropriated, obtained, and converted without authorization, with the intent to convert the trade secret, which was related to and included in a product that is produced for and placed in interstate and foreign commerce, intending to convert such trade secrets to the economic benefit of someone other than GSK, and intending and knowing that the offense would injure GSK.

In violation of Title 18, United States Code, Section 1832(a)(3).

COUNT TWENTY-THREE

THE GRAND JURY FURTHER CHARGES THAT:

1. Paragraphs 1 through 59 and 61 through 66 and Overt Acts 1 through 95 of Count One are incorporated here.
2. On or about January 1, 2013, in the Eastern District of Pennsylvania, defendant

**LUCY XI,
a/k/a "Lu Xi,"**

knowingly stole, and without authorization appropriated, took, and carried away trade secrets belonging to GSK, specifically the trade secrets contained in Document 33, which are related to and included in a product that is produced for and placed in interstate and foreign commerce, intending to convert such trade secrets to the economic benefit of someone other than GSK, and intending and knowing that the offense would injure GSK.

In violation of Title 18, United States Code, Section 1832(a)(1).

COUNT TWENTY-FOUR

THE GRAND JURY FURTHER CHARGES THAT:

1. Paragraphs 1 through 59 and 61 through 66 and Overt Acts 1 through 95 of Count One are incorporated here.
2. On or about January 1, 2013, in the Eastern District of Pennsylvania, defendant

**LUCY XI,
a/k/a "Lu Xi,"**

knowingly and without authorization attempted to copy, duplicate, sketch, draw, download, upload, alter, photocopy, replicate, transmit, deliver, send, communicate, and convey trade secrets belonging to GSK, specifically the trade secrets contained in Document 33, which are related to and included in a product that is produced for and placed in interstate and foreign commerce, intending to convert such trade secrets to the economic benefit of someone other than GSK, and intending and knowing that the offense would injure GSK.

In violation of Title 18, United States Code, Section 1832(a)(2).

COUNT TWENTY-FIVE

THE GRAND JURY FURTHER CHARGES THAT:

1. Paragraphs 1 through 59 and 61 through 66 and Overt Acts 1 through 95 of Count One are incorporated here.
2. On or about January 1, 2013, in the Eastern District of Pennsylvania and elsewhere, defendants

**YAN MEI and
LUCY XI,
a/k/a "Lu Xi,"**

knowingly received, bought, and possessed a trade secret belonging to GSK, specifically the trade secrets contained in Document 33, knowing it to have been stolen and appropriated, obtained, and converted without authorization, with the intent to convert the trade secret, which was related to and included in a product that is produced for and placed in interstate and foreign commerce, intending to convert such trade secrets to the economic benefit of someone other than GSK, and intending and knowing that the offense would injure GSK.

In violation of Title 18, United States Code, Section 1832(a)(3).

COUNT TWENTY-SIX

THE GRAND JURY FURTHER CHARGES THAT:

1. Paragraphs 1 through 59 and 61 through 66 and Overt Acts 1 through 95 of Count One are incorporated here.
2. On or about September 25, 2013, in the Eastern District of Pennsylvania, defendant

**YU XUE,
a/k/a "Joyce,"**

knowingly stole, and without authorization appropriated, took, and carried away trade secrets belonging to GSK, specifically the trade secrets contained in Document 9, which are related to and included in a product that is produced for and placed in interstate and foreign commerce, intending to convert such trade secrets to the economic benefit of someone other than GSK, and intending and knowing that the offense would injure GSK.

In violation of Title 18, United States Code, Section 1832(a)(1).

COUNT TWENTY-SEVEN

THE GRAND JURY FURTHER CHARGES THAT:

1. Paragraphs 1 through 59 and 61 through 66 and Overt Acts 1 through 95 of Count One are incorporated here.
2. On or about September 25, 2013, in the Eastern District of Pennsylvania, defendant

**YU XUE,
a/k/a "Joyce,"**

knowingly and without authorization attempted to copy, duplicate, sketch, draw, download, upload, alter, photocopy, replicate, transmit, deliver, send, communicate, and convey trade secrets belonging to GSK, specifically the trade secrets contained in Document 9, which are related to and included in a product that is produced for and placed in interstate and foreign commerce, intending to convert such trade secrets to the economic benefit of someone other than GSK, and intending and knowing that the offense would injure GSK.

In violation of Title 18, United States Code, Section 1832(a)(2).

COUNT TWENTY-EIGHT

THE GRAND JURY FURTHER CHARGES THAT:

1. Paragraphs 1 through 59 and 61 through 66 and Overt Acts 1 through 95 of Count One are incorporated here.
2. On or about September 25, 2013, in the Eastern District of Pennsylvania and elsewhere, defendants

**YU XUE,
a/k/a "Joyce,"
TAO LI, and
YAN MEI**

knowingly received, bought, and possessed a trade secret belonging to GSK, specifically the trade secrets contained in Document 9, knowing it to have been stolen and appropriated, obtained, and converted without authorization, with the intent to convert the trade secret, which was related to and included in a product that is produced for and placed in interstate and foreign commerce, intending to convert such trade secrets to the economic benefit of someone other than GSK, and intending and knowing that the offense would injure GSK.

In violation of Title 18, United States Code, Section 1832(a)(3).

COUNT TWENTY-NINE

THE GRAND JURY FURTHER CHARGES THAT:

1. Paragraphs 1 through 59 and 61 through 66 and Overt Acts 1 through 95 of Count One are incorporated here.
2. On or about November 27, 2013, in the Eastern District of Pennsylvania, defendant

**YU XUE,
a/k/a "Joyce,"**

knowingly stole, and without authorization appropriated, took, and carried away trade secrets belonging to GSK, specifically the trade secrets contained in Document GSK B, which are related to and included in a product that is produced for and placed in interstate and foreign commerce, intending to convert such trade secrets to the economic benefit of someone other than GSK, and intending and knowing that the offense would injure GSK.

In violation of Title 18, United States Code, Section 1832(a)(1).

COUNT THIRTY

THE GRAND JURY FURTHER CHARGES THAT:

1. Paragraphs 1 through 59 and 61 through 66 and Overt Acts 1 through 95 of Count One are incorporated here.
2. On or about November 27, 2013, in the Eastern District of Pennsylvania, defendant

**YU XUE,
a/k/a "Joyce,"**

knowingly and without authorization attempted to copy, duplicate, sketch, draw, download, upload, alter, photocopy, replicate, transmit, deliver, send, communicate, and convey trade secrets belonging to GSK, specifically the trade secrets contained in Document GSK B, which are related to and included in a product that is produced for and placed in interstate and foreign commerce, intending to convert such trade secrets to the economic benefit of someone other than GSK, and intending and knowing that the offense would injure GSK.

In violation of Title 18, United States Code, Section 1832(a)(2).

COUNT THIRTY-ONE

THE GRAND JURY FURTHER CHARGES THAT:

1. Paragraphs 1 through 59 and 61 through 66 and Overt Acts 1 through 95 of Count One are incorporated here.
2. On or about November 27, 2013, in the Eastern District of Pennsylvania and elsewhere, defendants

**YU XUE,
a/k/a "Joyce,"
TAO LI, and
YAN MEI**

knowingly received, bought, and possessed a trade secret belonging to GSK, specifically the trade secrets contained in Document GSK B, knowing it to have been stolen and appropriated, obtained, and converted without authorization, with the intent to convert the trade secret, which was related to and included in a product that is produced for and placed in interstate and foreign commerce, intending to convert such trade secrets to the economic benefit of someone other than GSK, and intending and knowing that the offense would injure GSK.

In violation of Title 18, United States Code, Section 1832(a)(3).

COUNT THIRTY-TWO

THE GRAND JURY FURTHER CHARGES THAT:

1. Paragraphs 1 through 59 and 61 through 66 and Overt Acts 1 through 95 of Count One are incorporated here.
2. On or about January 19, 2014, in the Eastern District of Pennsylvania, defendant

**YU XUE,
a/k/a "Joyce,"**

knowingly stole, and without authorization appropriated, took, and carried away trade secrets belonging to GSK, specifically the trade secrets contained in Document 15, which are related to and included in a product that is produced for and placed in interstate and foreign commerce, intending to convert such trade secrets to the economic benefit of someone other than GSK, and intending and knowing that the offense would injure GSK.

In violation of Title 18, United States Code, Section 1832(a)(1).

COUNT THIRTY-THREE

THE GRAND JURY FURTHER CHARGES THAT:

1. Paragraphs 1 through 59 and 61 through 66 and Overt Acts 1 through 95 of Count One are incorporated here.
2. On or about January 19, 2014 in the Eastern District of Pennsylvania, defendant

**YU XUE,
a/k/a "Joyce,"**

knowingly and without authorization attempted to copy, duplicate, sketch, draw, download, upload, alter, photocopy, replicate, transmit, deliver, send, communicate, and convey trade secrets belonging to GSK, specifically the trade secrets contained in Document 15, which are related to and included in a product that is produced for and placed in interstate and foreign commerce, intending to convert such trade secrets to the economic benefit of someone other than GSK, and intending and knowing that the offense would injure GSK.

In violation of Title 18, United States Code, Section 1832(a)(2).

COUNT THIRTY-FOUR

THE GRAND JURY FURTHER CHARGES THAT:

1. Paragraphs 1 through 59 and 61 through 66 and Overt Acts 1 through 95 of Count One are incorporated here.
2. On or about January 19, 2014, in the Eastern District of Pennsylvania and elsewhere, defendants

**YU XUE,
a/k/a "Joyce," and
TAO LI**

knowingly received, bought, and possessed a trade secret belonging to GSK, specifically the trade secrets contained in Document 15, knowing it to have been stolen and appropriated, obtained, and converted without authorization, with the intent to convert the trade secret, which was related to and included in a product that is produced for and placed in interstate and foreign commerce, intending to convert such trade secrets to the economic benefit of someone other than GSK, and intending and knowing that the offense would injure GSK.

In violation of Title 18, United States Code, Section 1832(a)(3).

COUNT THIRTY-FIVE

THE GRAND JURY FURTHER CHARGES THAT:

1. Paragraphs 1 through 59 and 61 through 66 and Overt Acts 1 through 95 of Count One are incorporated here.
2. On or about February 17, 2014, in the Eastern District of Pennsylvania, defendant

**YU XUE,
a/k/a "Joyce,"**

knowingly stole, and without authorization appropriated, took, and carried away trade secrets belonging to GSK, specifically the trade secrets contained in Document GSK C, which are related to and included in a product that is produced for and placed in interstate and foreign commerce, intending to convert such trade secrets to the economic benefit of someone other than GSK, and intending and knowing that the offense would injure GSK.

In violation of Title 18, United States Code, Section 1832(a)(1).

COUNT THIRTY-SIX

THE GRAND JURY FURTHER CHARGES THAT:

1. Paragraphs 1 through 59 and 61 through 66 and Overt Acts 1 through 95 of Count One are incorporated here.
2. On or about February 17, 2014, in the Eastern District of Pennsylvania, defendant

**YU XUE,
a/k/a "Joyce,"**

knowingly and without authorization attempted to copy, duplicate, sketch, draw, download, upload, alter, photocopy, replicate, transmit, deliver, send, communicate, and convey trade secrets belonging to GSK, specifically the trade secrets contained in Document GSK C, which are related to and included in a product that is produced for and placed in interstate and foreign commerce, intending to convert such trade secrets to the economic benefit of someone other than GSK, and intending and knowing that the offense would injure GSK.

In violation of Title 18, United States Code, Section 1832(a)(2).

COUNT THIRTY-SEVEN

THE GRAND JURY FURTHER CHARGES THAT:

1. Paragraphs 1 through 59 and 61 through 66 and Overt Acts 1 through 95 of Count One are incorporated here.
2. On or about February 17, 2014, in the Eastern District of Pennsylvania and elsewhere, defendants

**YU XUE,
a/k/a "Joyce,"
TAO LI, and
YAN MEI**

knowingly received, bought, and possessed a trade secret belonging to GSK, specifically the trade secrets contained in Document GSK C, knowing it to have been stolen and appropriated, obtained, and converted without authorization, with the intent to convert the trade secret, which was related to and included in a product that is produced for and placed in interstate and foreign commerce, intending to convert such trade secrets to the economic benefit of someone other than GSK, and intending and knowing that the offense would injure GSK.

In violation of Title 18, United States Code, Section 1832(a)(3).

COUNT THIRTY-EIGHT

THE GRAND JURY FURTHER CHARGES THAT:

1. Paragraphs 1 through 59 and 61 through 66 and Overt Acts 1 through 95 of Count One are incorporated here.
2. On or about March 3, 2014, in the Eastern District of Pennsylvania, defendant

**YU XUE,
a/k/a "Joyce,"**

knowingly stole, and without authorization appropriated, took, and carried away trade secrets belonging to GSK, specifically the trade secrets contained in Document U, which are related to and included in a product that is produced for and placed in interstate and foreign commerce, intending to convert such trade secrets to the economic benefit of someone other than GSK, and intending and knowing that the offense would injure GSK.

In violation of Title 18, United States Code, Section 1832(a)(1).

COUNT THIRTY NINE

THE GRAND JURY FURTHER CHARGES THAT:

1. Paragraphs 1 through 59 and 61 through 66 and Overt Acts 1 through 95 of Count One are incorporated here.
2. On or about March 3, 2014, in the Eastern District of Pennsylvania, defendant

**YU XUE,
a/k/a "Joyce,"**

knowingly and without authorization attempted to copy, duplicate, sketch, draw, download, upload, alter, photocopy, replicate, transmit, deliver, send, communicate, and convey trade secrets belonging to GSK, specifically the trade secrets contained in Document U, which are related to and included in a product that is produced for and placed in interstate and foreign commerce, intending to convert such trade secrets to the economic benefit of someone other than GSK, and intending and knowing that the offense would injure GSK.

In violation of Title 18, United States Code, Section 1832(a)(2).

COUNT FORTY

THE GRAND JURY FURTHER CHARGES THAT:

1. Paragraphs 1 through 59 and 61 through 66 and Overt Acts 1 through 95 of Count One are incorporated here.
2. On or about March 3, 2014, in the Eastern District of Pennsylvania, defendant

**YU XUE,
a/k/a "Joyce,"**

knowingly stole, and without authorization appropriated, took, and carried away trade secrets belonging to GSK, specifically the trade secrets contained in Document W, which are related to and included in a product that is produced for and placed in interstate and foreign commerce, intending to convert such trade secrets to the economic benefit of someone other than GSK, and intending and knowing that the offense would injure GSK.

In violation of Title 18, United States Code, Section 1832(a)(1).

COUNT FORTY-ONE

THE GRAND JURY FURTHER CHARGES THAT:

1. Paragraphs 1 through 59 and 61 through 66 and Overt Acts 1 through 95 of Count One are incorporated here.
2. On or about March 3, 2014, in the Eastern District of Pennsylvania, defendant

**YU XUE,
a/k/a "Joyce,"**

knowingly and without authorization attempted to copy, duplicate, sketch, draw, download, upload, alter, photocopy, replicate, transmit, deliver, send, communicate, and convey trade secrets belonging to GSK, specifically the trade secrets contained in Document W, which are related to and included in a product that is produced for and placed in interstate and foreign commerce, intending to convert such trade secrets to the economic benefit of someone other than GSK, and intending and knowing that the offense would injure GSK.

In violation of Title 18, United States Code, Section 1832(a)(2).

COUNT FORTY-TWO

THE GRAND JURY FURTHER CHARGES THAT:

1. Paragraphs 1 through 59 and 61 through 66 and Overt Acts 1 through 95 of Count One are incorporated here.
2. On or about March 3, 2014, in the Eastern District of Pennsylvania, defendant

**YU XUE,
a/k/a "Joyce,"**

knowingly stole, and without authorization appropriated, took, and carried away trade secrets belonging to GSK, specifically the trade secrets contained in Documents X-1, X-2, X-3, X-4, and X-5, which are related to and included in a product that is produced for and placed in interstate and foreign commerce, intending to convert such trade secrets to the economic benefit of someone other than GSK, and intending and knowing that the offense would injure GSK.

In violation of Title 18, United States Code, Section 1832(a)(1).

COUNT FORTY-THREE

THE GRAND JURY FURTHER CHARGES THAT:

1. Paragraphs 1 through 59 and 61 through 66 and Overt Acts 1 through 95 of Count One are incorporated here.
2. On or about March 3, 2014, in the Eastern District of Pennsylvania, defendant

**YU XUE,
a/k/a "Joyce,"**

knowingly and without authorization attempted to copy, duplicate, sketch, draw, download, upload, alter, photocopy, replicate, transmit, deliver, send, communicate, and convey trade secrets belonging to GSK, specifically the trade secrets contained in Documents X-1, X-2, X-3, X-4, and X-5, which are related to and included in a product that is produced for and placed in interstate and foreign commerce, intending to convert such trade secrets to the economic benefit of someone other than GSK, and intending and knowing that the offense would injure GSK.

In violation of Title 18, United States Code, Section 1832(a)(2).

COUNT FORTY-FOUR

THE GRAND JURY FURTHER CHARGES THAT:

1. Paragraphs 1 through 59 and 61 through 66 and Overt Acts 1 through 95 of Count One are incorporated here.
2. On or about January 5, 2016, in the Eastern District of Pennsylvania, the Southern District of California, and elsewhere, defendant

TAO LI

knowingly received, bought, and possessed a trade secret belonging to GSK, specifically the trade secrets contained in Document TL-1, Document TL-2, Document TL-3, Document TL-4, Document TL-5, and Document TL-6, knowing it to have been stolen and appropriated, obtained, and converted without authorization, with the intent to convert the trade secret, which was related to and included in a product that is produced for and placed in interstate and foreign commerce, intending to convert such trade secrets to the economic benefit of someone other than GSK, and intending and knowing that the offense would injure GSK.

In violation of Title 18, United States Code, Section 1832(a)(3).

COUNT FORTY-FIVE

THE GRAND JURY FURTHER CHARGES THAT:

1. Paragraphs 1 through 59 and 61 through 66 and Overt Acts 1 through 95 of Count One are incorporated here.
2. On or about January 5, 2016, in the Eastern District of Pennsylvania and elsewhere, defendants

**YU XUE,
a/k/a "Joyce,"**

knowingly received, bought, and possessed a trade secret belonging to GSK, specifically the trade secrets contained in Document YX-1, Document YX-2, Document YX-3, Document YX-4, Document YX-5, Document YX-6, and Document YX-7, knowing it to have been stolen and appropriated, obtained, and converted without authorization, with the intent to convert the trade secret, which was related to and included in a product that is produced for and placed in interstate and foreign commerce, intending to convert such trade secrets to the economic benefit of someone other than GSK, and intending and knowing that the offense would injure GSK.

In violation of Title 18, United States Code, Section 1832(a)(3).

NOTICE OF FORFEITURE No.1

THE GRAND JURY FURTHER CHARGES THAT:

1. As a result of the violations of Title 18, United States Code, Sections 1343 and 1349 as set forth in this indictment, defendants

**YU XUE,
a/k/a "Joyce,"
TAO LI,
YAN MEI,
TIAN XUE, and
LUCY XI,
a/k/a "Lu Xi"**

shall forfeit to the United States of America any property that constitutes, or is derived from, proceeds traceable to the commission of such offenses, including:

(a) all funds up to \$50,000 in the Bank of America account 3830 1259 3219 for Humanabio, Inc.

2. If any of the property subject to forfeiture, as a result of any act or omission of the defendant:

- (a) cannot be located upon the exercise of due diligence;
- (b) has been transferred or sold to, or deposited with, a third party;
- (c) has been placed beyond the jurisdiction of the Court;
- (d) has been substantially diminished in value; or
- (e) has been commingled with other property which cannot be divided without difficulty;

it is the intent of the United States, pursuant to Title 28, United States Code, Section 2461(c), both incorporating Title 21, United States Code, Section 853(p), to seek forfeiture of any other

property of the defendants up to the value of the property subject to forfeiture.

All pursuant to Title 28, United States Code, Section 2461(c) and Title 18, United States Code, Section 981(a)(1)(C).

NOTICE OF FORFEITURE No. 2

THE GRAND JURY FURTHER CHARGES THAT:

1. As a result of the violations of Title 18, United States Code, Sections 1832 as set forth in this indictment, defendants

**YU XUE,
a/k/a "Joyce,"
TAO LI,
YAN MEI, and
LUCY XI,
a/k/a "Lu Xi"**

shall forfeit to the United States of America any property used, or intended to be used, in any manner or part to commit or facilitate the commission of the offenses, any property that constitutes, or is derived from, proceeds obtained directly or indirectly as a result of the commission of the offenses, including:

(a) all funds up to \$50,000 in the Bank of America account 3830 1259 3219 for Humanabio, Inc.;

(b) all personal e-mail accounts used by the defendants to send and receive the trade secret information; and

(c) RENOPHARMA's website, www.renopharma.com.

2. If any of the property subject to forfeiture, as a result of any act or omission of the defendant:

- (a) cannot be located upon the exercise of due diligence;
- (b) has been transferred or sold to, or deposited with, a third party;
- (c) has been placed beyond the jurisdiction of the Court;
- (d) has been substantially diminished in value; or

(e) has been commingled with other property which cannot be divided without difficulty;

it is the intent of the United States, pursuant to Title 28, United States Code, Section 2323(b), incorporating Title 21, United States Code, Section 853(p), to seek forfeiture of any other property of the defendants up to the value of the property subject to forfeiture.

All pursuant to Title 18, United States Code, Sections 1834 and 2323.

NOTICE OF FORFEITURE No. 3

THE GRAND JURY FURTHER CHARGES THAT:

1. As a result of the violation of Title 18, United States Code, Section 1956 set forth in this indictment, defendants

**YU XUE,
a/k/a "Joyce,"
TAO LI,
YAN MEI, and
TIAN XUE**

shall forfeit to the United States of America any property, real or personal, involved in such violation, and any property traceable to such property, including:

- (a) all funds up to \$50,000 in the Bank of America account 3830 1259 3219 for Humanabio, Inc.

2. If any of the property subject to forfeiture, as a result of any act or omission of the defendants:

- (a) cannot be located upon the exercise of due diligence;
- (b) has been transferred or sold to, or deposited with, a third party;
- (c) has been placed beyond the jurisdiction of the Court;
- (d) has been substantially diminished in value; or
- (e) has been commingled with other property which cannot be divided without difficulty;

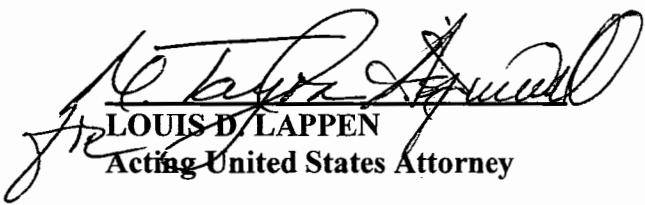
it is the intent of the United States, pursuant to Title 18, United States Code, Section 982(b),

incorporating Title 21, United States Code, Section 853(p), to seek forfeiture of any other property of the defendants up to the value of the property subject to forfeiture.

All pursuant to Title 18, United States Code, Section 982(a)(1).

A TRUE BILL:

GRAND JURY FOREPERSON



LOUIS D. LAPPEN
Acting United States Attorney